

What Is Claimed Is:

1. A method for remotely monitoring the cardiovascular condition of a patient, comprising:
using a data acquisition device at a patient site to non-invasively acquire cardiovascular condition information from a patient, the cardiovascular condition information including a data stream of pulse pressure-related data,
transmitting the cardiovascular condition information acquired by the data acquisition device to a remote processor capable of performing data processing and data storage functions on the transmitted cardiovascular condition information; and
transmitting the cardiovascular condition information processed by the remote processor to a data display device at a healthcare provider site remote from the data acquisition device for permitting the healthcare provider to use the cardiovascular condition information to monitor the cardiovascular condition of the patient.
2. The method of remotely monitoring cardiovascular condition of claim 1 wherein the step of providing wave form data includes the step of providing pulse pressure data for the patient taken over a period of time during which a blood pressure cuff exerted an elevated pressure on an appendage of the patient, and wherein data display device at a healthcare provider site comprises at least one of a display screen, a personal data assistant, a computer monitor, a phone screen and a printer.
3. The method of remotely monitoring cardiovascular condition of claim 1 wherein the step of providing pulse pressure data includes the step of providing pulse pressure data taken over a time interval during which the elevated pressure on the patient's appendage is varied between a supra-systolic elevated pressure and a sub-diastolic pressure.
4. The method of remotely monitoring cardiovascular condition of claim 1 wherein the step of transmitting the cardiovascular condition information includes the step of transmitting

10080764.022202

wave form blood pressure data for the patient taken over a time interval during which a blood pressure cuff exerts an elevated pressure on an appendage of the patient.

5. The method of remotely monitoring cardiovascular condition of claim 4 wherein the step of transmitting the cardiovascular condition information includes the step of transmitting patient indicia information to enable the remote processor to identify the patient from whom the cardiovascular condition information was being transferred.

6. The method of remotely monitoring cardiovascular condition of claim 1, wherein the step of using a data acquisition device includes the step of using the data acquisition device to process the non-invasively acquired information to determine at least one of the patient's systolic, diastolic and mean arterial blood pressures.

7. The method of remotely monitoring cardiovascular condition of claim 1 wherein the step of transmitting the cardiovascular condition information acquired by the data acquisition device includes the step of transmitting the systolic, diastolic and mean arterial blood pressure of the patient determined by the data acquisition device.

8. The method of remotely monitoring cardiovascular condition of claim 7, wherein the step of using a data acquisition device includes the step of using a data acquisition device comprising:

- (a) a blood pressure cuff for exerting an elevated pressure on an appendage of a patient; and
- (b) an information processor capable of being operatively coupled to the blood pressure cuff for receiving and performing processing operations on information received from the blood pressure cuff, the information processor being capable of being coupled to a display for displaying the systolic, diastolic and mean arterial pressure determined by the data acquisition device.

10080764.022202

9. The method of remotely monitoring cardiovascular condition of claim 8, wherein the display is capable of displaying wave form data relating to the blood pressure of the patient as a function of at least one of time and pressure exerted by the blood pressure cuff.

10. The method of remotely monitoring cardiovascular condition of claim 1, further comprising the step of using the remote processor to process the cardiovascular condition information to create processed cardiovascular condition information, the processed cardiovascular condition information including at least one determined cardiovascular parameter.

11. The method of remotely monitoring cardiovascular condition of claim 10 wherein that at least one determined cardiovascular parameter is selected from the group consisting of systolic pressure, diastolic pressure, mean arterial pressure, heart rate, compliance, vascular resistance, ejection fraction, ejection time, ventricular contractility, cardiac output, vessel elasticity, stroke volume, ventricular rate of pressure change, bronchial arterial parameters, distensibility and arterial resistance.

12. The method of remotely monitoring cardiovascular condition of claim 1, further comprising the steps of establishing a patient identifier unique to a particular patient, establishing a healthcare provider identifier unique to a healthcare provider, and creating an association between the patient identifier and at least one healthcare provider identifier of a healthcare provider who provides care to the patient identified by the patient identifier, and wherein the step of transmitting the cardiovascular information to the healthcare provider includes the step of transmitting the cardiovascular information only to a data display device at a healthcare provider site having a healthcare provider identifier associated with the patient identifier.

13. The method of remotely monitoring cardiovascular condition of claim 1, further comprising the step of establishing a patient identifier unique to a particular patient, establishing

10080764-022202

a healthcare provider identifier unique to a particular healthcare provider, and establishing an association between a particular patient identifier and at least one particular healthcare provider identifier, for restricting access to cardiovascular information about a particular patient to those possessing an associated healthcare provider identifier.

14. The method of remotely monitoring cardiovascular condition of claim 13, wherein the step of establishing a patient identifier code includes the step of creating a patient identifier code devoid of any patient name or address information.

15. The method of claim 1 wherein:

the step of using a data acquisition device to non-invasively acquire cardiovascular condition information comprises the step of performing a series of cardiovascular data acquisition measurements to create a series of cardiovascular condition measurements, further comprising the steps of:

employing the remote processor to derive at least one cardiovascular parameter from each of the series of cardiovascular measurements, and correlating the derived cardiovascular parameters to create a trend report capable of being displayed at the healthcare provider site.

16. The method of claim 15 wherein the cardiovascular parameter is chosen from the group consisting of systolic pressure, diastolic pressure, mean arterial pressure, heart rate, compliance, vascular resistance, ejection fraction, ejection time, vessel elasticity, ventricular contractility, cardiac output, stroke volume, ventricular rate of pressure change, bronchial artery parameters, distensibility, and arterial resistance.

17. The method of claim 15 wherein the step of correlating the derived cardiovascular parameters includes the step of correlating the derived cardiovascular parameters temporally to create a temporally-based trend report.

10080764.022202

18. The method of claim 17 wherein the step of creating a temporally-based trend report includes the step of preparing a graphic display for displaying the series of derived cardiovascular parameters as a function of time.

19. The method of claim 15 further comprising the step of creating a file within the remote processor for storing cardiovascular condition information received from a patient, and storing the trend data in a file format that permits the trend data report of a first cardiovascular parameter to be accessed separately from a trend data report of a second cardiovascular parameter.

20. Computer software for remotely monitoring the cardiovascular condition of a patient, the computer software being capable of being installed in a processor remote from each of a patient and a healthcare provider site, the computer software comprising:

a data receiving function for acquiring a data stream of cardiovascular information acquired non-invasively from a patient,

a processing function for processing the cardiovascular information to derive at least one cardiovascular parameter from the data stream received from the patient;

a storage function for storing the processed information in a manner that will correlate the processed information to make it accessible based on a patient identifier, and

a transmitting function that is capable of transmitting the processed information to the remote healthcare provider site to permit the healthcare provider to monitor the cardiovascular condition of the patient.

21. The computer software of claim 20 wherein the processing function is capable of processing the information received to derive at least one cardiovascular parameter selected from the group consisting of systolic pressure, diastolic pressure, mean arterial pressure, heart rate, compliance, vascular resistance, ejection fraction, ventricular contractibility, stroke volume,

10080764-02202

cardiac output, ventricular rate of pressure change, brachial arterial parameters, distensibility and arterial resistance.

22. The computer software of claim 20, wherein the data receiving function is capable of acquiring a series of cardiovascular measurements, the processing function is capable of deriving at least one cardiovascular parameter from each of the series of cardiovascular measurements, and correlating the derived cardiovascular parameters to create a trend report capable of being transmitted to the healthcare provider site.

23. The computer software of claim 22 wherein the processor is capable of correlating the derived cardiovascular parameters temporally to create a temporally-based trend report.

24. The computer software of claim 23 wherein the storage function is capable of assembling the data from each similar cardiovascular parameter into a file, for facilitating the creation of a trend report for the particular cardiovascular parameter.

10080764, 022202